



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,764	01/16/2004	Akira Yamaguchi	09792909-5771	6420
26263	7590	11/17/2011	EXAMINER	
SNR DENTON US LLP			DOVE, TRACY MAE	
P.O. BOX 061080			ART UNIT	PAPER NUMBER
CHICAGO, IL. 60606-1080			1726	
MAIL DATE		DELIVERY MODE		
11/17/2011		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/758,764	<b>Applicant(s)</b> YAMAGUCHI ET AL.
	<b>Examiner</b> TRACY DOVE	<b>Art Unit</b> 1726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 05 October 2010.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 5) Claim(s) 1-3 and 5-22 is/are pending in the application.
- 5a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 6) Claim(s) \_\_\_\_\_ is/are allowed.
- 7) Claim(s) 1-3,5-7 and 16-22 is/are rejected.
- 8) Claim(s) \_\_\_\_\_ is/are objected to.
- 9) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTC/SB-08)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to the communication filed on 10/5/10. Applicant's arguments have been considered, but are not persuasive. Claims 1-3 and 5-22 are pending. Claims 8-15 are withdrawn for being directed to a nonelected invention.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/5/10 has been entered.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5-7 and 16-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "a gas adsorbing carbon material" and "a second gas adsorbing carbon material", which is unclear. Examiner suggests "a first gas adsorbing carbon material" and "a second gas adsorbing carbon material". Note claims 2, 3 and 20 recite "the first gas adsorbing carbon material".

Claim 1 recites the phrase "the cathode mixture includes a second gas adsorbing carbon material and an activated carbon", which is confusing. The specification teaches the activated carbon contained in the cathode mixture is a second gas adsorbing carbon material. It appears "a second gas adsorbing carbon material" and "an activated carbon" refer to the same element of the claimed invention.

Claim 2 recites "further includes", which is indefinite. Examiner suggests "further" be deleted from the claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

- (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7 and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al., US 5,807,645.

Takeuchi teaches an electrode comprising acetylene black and/or carbon black carbonaceous diluent having a surface area less than about 100 m<sup>2</sup>/g mixed with graphite and a charge transfer active material to provide an electrode active admixture. The carbonaceous diluent increase the charge transfer capability within the electrode while exhibiting diminished cell swelling (abstract). The electrode is contained in a nonaqueous electrochemical cell having a cathode, an anode, a separator and a nonaqueous electrolyte. Both the anode and the cathode include charge transfer active materials (3:66-5:7). The conductive diluent is preferably present in the electrode active

admixture in an amount of 0.5-2 wt% (4:43-51). The separator may be polyvinylidene fluoride (polymer material) (5:8-19). The electrolyte may include a conductive salt and a nonaqueous solvent. The salt may be LiPF<sub>6</sub> or LiBF<sub>4</sub> (6:6-15) and the solvent may be a carbonate (5:53-6:5). The cell is contained within a metal casing (6:36-54). See also claims 26, 27, 29 and 31.

Takeuchi does not explicitly state the conductive diluent (gas adsorbing carbon material) is contained in both the anode mixture and the cathode mixture. However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Takeuchi teaches an electrode comprising acetylene black and/or carbon black carbonaceous diluent having a surface area less than about 100 m<sup>2</sup>/g mixed with graphite and a charge transfer active material to provide an electrode active admixture. Both the anode and the cathode include charge transfer active materials (3:66-5:7). Thus, Takeuchi at least suggests the conductive diluent may be contained in both the anode mixture and the cathode mixture.

Claims 1-3, 5, 16, 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsufumi et al., JP 09-035718 in view of Takeuchi et al., US 5,807,645.

Mitsufumi teaches battery comprising an anode having an anode mixture containing an anode active material, and a cathode having a cathode mixture containing a cathode active material, said anode and the cathode being layered together via a separator (0002-0033; figure 1 and the corresponding text); a solid electrolyte including

a polymer material and an electrolyte salt contained therein (0028-0029 and 0035); and a film-shaped exterior material housing therein said battery and the solid electrolyte (see figure 1 and 0030 and 0040); wherein a gas adsorbing carbon material formed of a carbonaceous material having a specific surface not less than 30 m<sup>2</sup>/g, said gas adsorbing carbon material being added to said anode mixture for adsorbing a gas evolved within the battery (abstract; 0023-0026). Carbon black is activated carbon as it absorbs gasses and is noted in an amount of 0.1-4% in the anode (0023-0026).

Ketchien black and furnace black are taught in paragraph 0025. Ketchien black and Ketjen black are the same material as noted above. The carbon material is taught to have a specific surface area of not less than 700 m<sup>2</sup>/g.

Mitsufumi does not explicitly teach the gas adsorbing carbon material is added to the cathode mixture. Mitsufumi teaches the gas adsorbing carbon material is added to the anode mixture. However, Takeuchi teaches an electrode mixture comprising acetylene black and/or carbon black carbonaceous diluent and a charge transfer active material. The carbonaceous diluent increase the charge transfer capability within the electrode while exhibiting diminished cell swelling (abstract). Both the anode and the cathode include charge transfer active materials (3:66-5:7). The conductive diluent is preferably present in the electrode active admixture in an amount of 0.5-2 wt% (4:43-51). At least claim 1 of Takeuchi teaches the carbonaceous diluent is contained in the cathode mixture.

Therefore, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Takeuchi teaches a

Art Unit: 1726

carbonaceous diluent, such as carbon black, may be added to the cathode to diminish cell swelling. Mitsufumi teaches a carbonaceous gas adsorbing material, such as carbon black, is added to the anode to reduce cell swelling. One of skill would have been motivated to provide the carbon black of the anode of Mitsufumi additionally in the cathode of Mitsufumi because Takeuchi teaches the material has the same effect in the cathode of reducing cell swelling.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al., US 5,807,645 in view of Bannai, US 6,503,656 and/or EP 1063713.

Takeuchi teaches non-aqueous electrolyte batteries, as noted above. The battery may be housed in a cylindrical or square shaped housing. Takeuchi does not teach the battery has a laminate film of a metal layer and a resin layer as an exterior casing material. Bannai et al. (EP 1,063,713) teaches a battery to have a laminate film of a metal layer and a resin layer as an exterior casing material (see the claims, 0021-0022). It would have been obvious to one of ordinary skill in the art at the time the invention was made to house the battery of Takeuchi in a casing of a laminate film having a metal layer and a resin layer in order to provide a durable, light-weight casing that has low permeability due to the metal layer and high sealability due to the resin layer (see '713, 0002-0004.) The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

Furthermore, the skilled artisan would have known that batteries generally have an outer resin layer label that identifies the battery.

***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRACY DOVE whose telephone number is (571)272-1285. The examiner can normally be reached on M & TU (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TRACY DOVE/  
Primary Examiner, Art Unit 1726  
November 15, 2011